6/ 12

1. (Previously presented) A method for fabricating a precision polysilicon resistor comprising:

providing a structure that includes at least one polysilicon resistor device region and at least one other type of device region, said at least one polysilicon resistor device region comprising a polysilicon layer;

selectively performing an ion implant and an activation anneal in the at least one other type of device region forming at least one of an emitter of a bipolar transistor, a polysilicon gate of a field effect transistor or source/drain regions of said field effect transistor;

subsequently, forming a protective dielectric layer overlying said polysilicon layer in said at least one polysilicon resistor device region; and

subsequently, providing a predetermined resistance value to said polysilicon layer in said at least one polysilicon resistor device region.

- 2. (Original) The method of Claim 1 wherein said at least one polysilicon device region comprises a semiconductor substrate, an optional first dielectric located on the substrate, said polysilicon layer located on the substrate or the optional first dielectric and a second dielectric layer located on the polysilicon layer.
- 3. (Cancelled).
- 4. (Previously presented) The method of Claim 1 further comprising forming a patterned photoresist atop the at least one polysilicon resistor device region to protect the region during said selective ion implant.
- 5. (Original) The method of Claim 1 wherein said protective dielectric layer is a nitride.

- 6. (Original) The method of Claim 1 wherein said step of providing a predetermined resistance value to said polysilicon layer comprises ion implantation into the polysilicon layer.
- 7. (Original) The method of Claim 6 wherein said ion implantation comprises p or n-type dopants.
- 8. (Original) The method of Claim 7 wherein said ion implantation provides said polysilicon layer with a dopant concentration of from about $1x10^{14}$ to about $1x10^{21}$ atom/cm³.
- 9. (Original) The method of Claim 6 further comprising an annealing step after said ion implantation.
- 10. (Original) The method of Claim 9 wherein said annealing step is performed in an inert gas ambient that may optionally be mixed with less than about 10% oxygen.
- 11. (Original) The method of Claim 1 further comprising exposing end portions of said polysilicon layer after said step of providing a predetermined resistance value to said polysilicon layer.
- 12. (Original) The method of Claim 11 further comprising providing silicide contacts on the exposed polysilicon layer.
- 13. (Original) The method of Claim 12 wherein said silicide contacts are formed using a silicidation process.
- 14. (Original) The method of Claim 13 wherein said silicidation process comprises depositing a conductive metal and annealing to cause reaction of the conductive metal with the underlying polysilicon layer thereby forming said silicide contacts.
- 15. (Original) The method of Claim 14 wherein said conductive metal is selected from the group consisting of Co, Ni, Ti, W and alloys thereof.

- 16. (Original) The method of Claim 15 wherein said conductive metal is Co or Ti.
- 17. (Currently amended) A process for fabricating a precision polysilicon resistor comprising:

performing a rapid thermal anneal for an emitter/FET activation process on a wafer or chip having a partially formed polysilicon resistor having a polysilicon layer, said rapid thermal anneal forming at least one of an emitter of a bipolar transistor, a polysilicon gate of a field effect transistor or source/drain regions of said field effect transistor; subsequently, depositing a protective layer over the polysilicon layer of the polysilicon resistor to protect the polysilicon layer against subsequent silicide processing; subsequently, ion implanting a dopant into the polysilicon layer of the polysilicon resistor through the protective layer; and

subsequently, performing silicide processing to form the precision polysilicon resistor.

- 18. (Original) The method of Claim 17 wherein the step of performing silicide processing includes performing a silicide formation thermal anneal followed by a silicide conversion thermal anneal to activate the resistor polysilicon ion implant dopant.
- 19. (Original) The method of Claim 17 wherein the step of performing silicide processing includes performing a silicide formation thermal anneal followed by a silicide conversion thermal anneal.
- 20. (Original) The method of Claim 17 wherein said protective layer comprises a nitride.